

Null-Packet Transmission from Inside a Firewall to Open a Communication Window for an Outside Transmitter

Abstract of Disclosure

A high-bandwidth direct communication path between two clients is used for voice or video calls over the Internet. An opening or a window in a firewall is made for the direct path by sending a null packet out from inside the firewall. The null packet can be a UDP packet directed to a UDP port of the other client. Initially, each client makes a TCP connection to port 80 of an external manager. Each client registers its UDP port number with the external manager. A call request from one client to the external manager results in a message from the external manager to the other client. The other client then creates the window in its firewall by transmitting the null UDP packet. Then the external manager is notified and tells the calling client to begin sending UDP packets directly to the other client through the firewall window.

09682084-071801